

**HITACHI**  
Inspire the Next

# OASIS™

ZENITH™ RF TECHNOLOGY





## WITH ZENITH RF TECHNOLOGY

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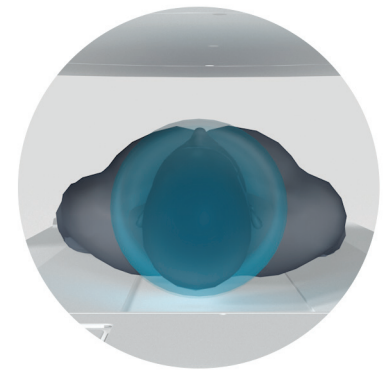
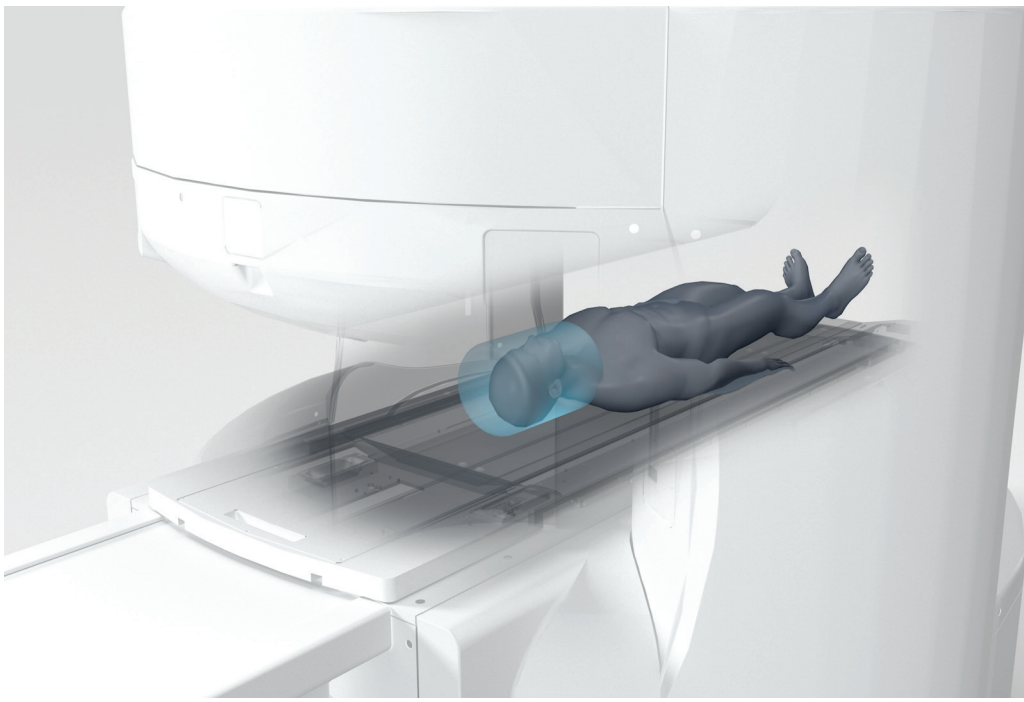
In any MR system, the RF transmitter has the fundamental purpose of sending excitation pulses that generate signal, while the receiver coils work to efficiently capture the generated signal from the patient. MR systems do this differently depending on their design and configuration, and image quality benefits can be realized by optimizing the signal capture.

Conventional horizontal field MR systems place surface coils around the outside of the patient to capture the MR signal. This configuration optimizes signal capture near the surface of the coil, but the signal and uniformity in the center of the imaging volume suffers.

Oasis Zenith RF Technology places volume coil elements around the patient to totally enclose the anatomy. This configuration optimizes the capture of available signal compared to surface coils in a horizontal field. The result is maximum signal capture even from the center of the patient with high uniformity. This enables Hitachi to bring high-field imaging benefits to open MRI with the industry leading 1.2T vertical field magnet in concert with Zenith RF Technology.

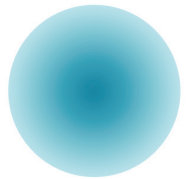
Zenith RF Technology combined with the highest field strength open MRI system provides these benefits:

- Greater SNR efficiency
- Higher sensitivity at the center of the coil – not just the surface
- Higher signal uniformity throughout the imaging volume



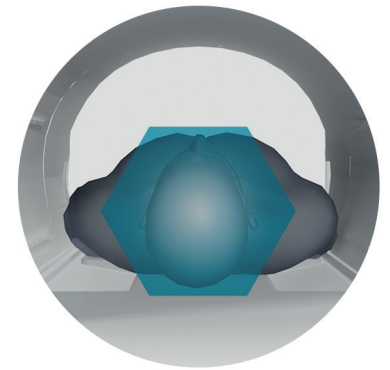
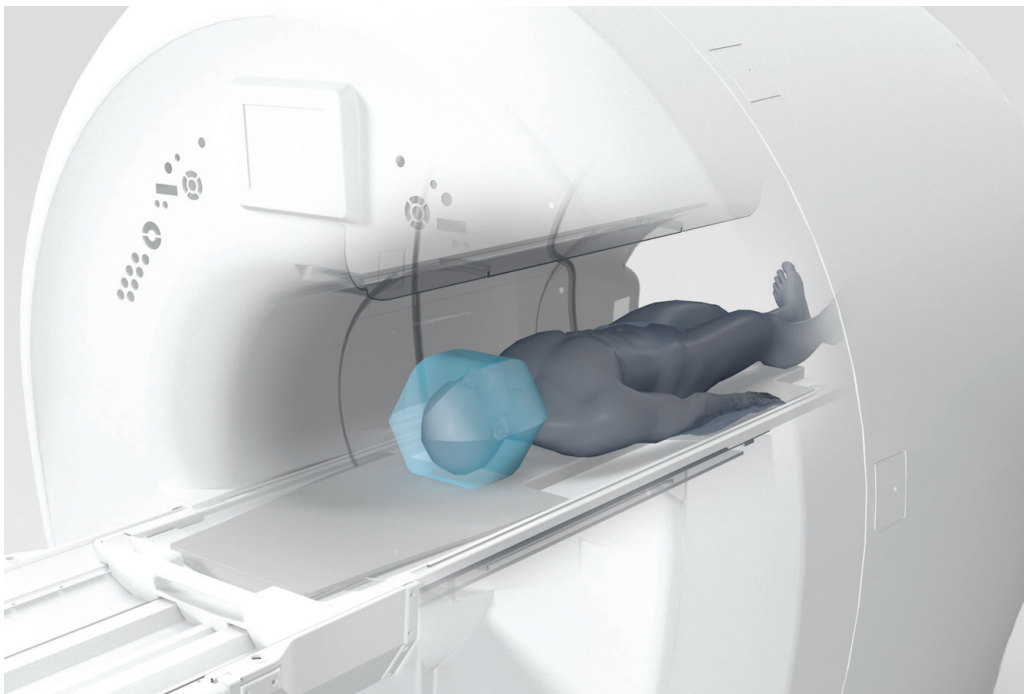
Cross section view  
of vertical field

Sensitivity  
High Low



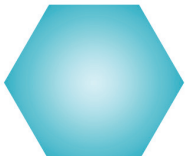
### Oasis — Vertical Field

Zenith volume coils enclose the scanned anatomy to maximize signal capture and uniformity throughout the imaging volume.



Cross section view  
of horizontal field

Sensitivity  
High Low



### Horizontal Field

Surface coil sensitivity in horizontal field systems is higher near the surface of the coil and lower at the center of the imaging volume.

# RAPID Head Coil

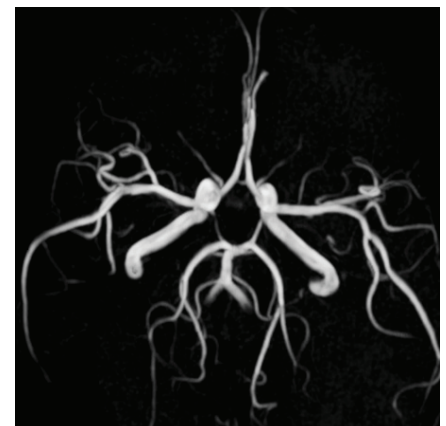
Patient comfort is complemented by an ultra fast, high-resolution brain imaging capability that drives image quality and workflow benefits. Patient mirror and open airy design enhance patient comfort and acceptance.

## Clinical Applications:

- Brain
- Circle of Willis (COW)
- Internal Auditory Canals (IAC)
- Orbits
- Pituitary
- TMJ
- Foot/Ankle

## Specifications:

- 5 channel
- Length — 30 cm
- Width — 27 cm
- Height — 36 cm



# RAPID Neurovascular Coil

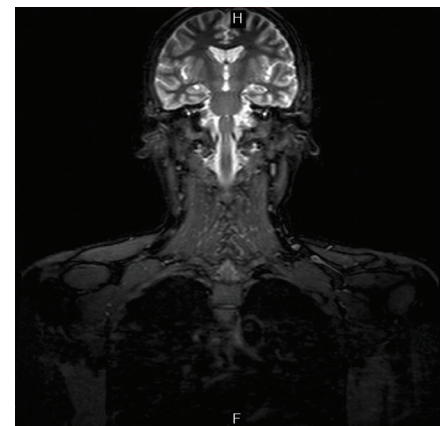
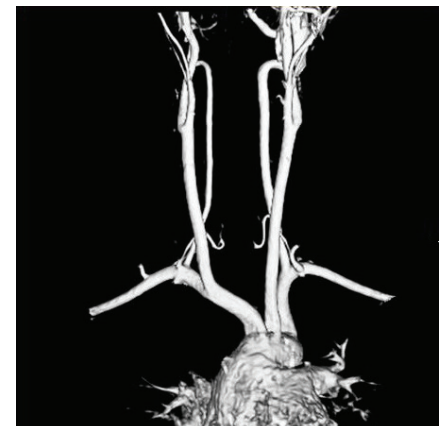
Provides the flexibility needed to image cranio-cervical anatomy. Multiple coil applications include Head, Cervical, and Head/Neck, minimizing patient repositioning.

## Clinical Applications:

- Neurovascular Imaging from COW to Aortic Arch
- Brain
- Cervical Spine
- Brachial Plexus

## Specifications:

- 8 channel
- Length — 57 cm
- Width — 44 cm
- Height — 37 cm



# RAPID Cervical Coil

Volumetric solenoid coil sensitivity and RAPID parallel imaging provide excellent C-spine imaging capability, even with kyphotic patients. Excellent carotid MRA imaging and the flexibility to image large extremities.

## Clinical Applications:

- Cervical Spine
- Carotid Arteries
- Knee
- Unilateral Lower Leg

## Specifications:

- 8 channel
- Length — 41 cm
- Width — 32 cm
- Height — 36 cm



# RAPID CTL Spine Coil

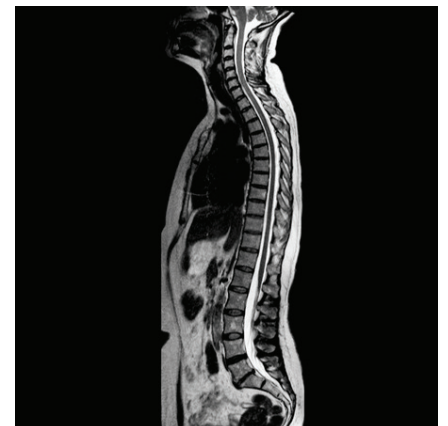
Optimized to provide the SNR and signal uniformity that is essential for high quality images of the entire spine, including whole spine screening studies. Electronic selection of cervical, cervical-thoracic, thoracic, and lumbar (C, C-T, T and L) modes simplify operation.

## Clinical Applications:

- Cervical Spine
- Thoracic Spine
- Lumbar Spine

## Specifications:

- 8 channel
- Length — 90 cm
- Width — 60 cm
- Height — 42.5 cm



# RAPID Shoulder Coil

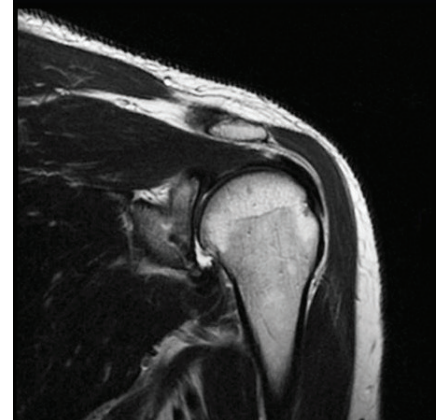
The inclusion of a through-arm loop with comfort pads delivers an outstanding axillary penetration capability and coil stability.

## Clinical Applications:

- Shoulder
- Supports ABER View

## Specifications:

- 6 channel
- Length — 27 cm
- Width — 23 cm
- Height — 28 cm



# RAPID Wrist Coil

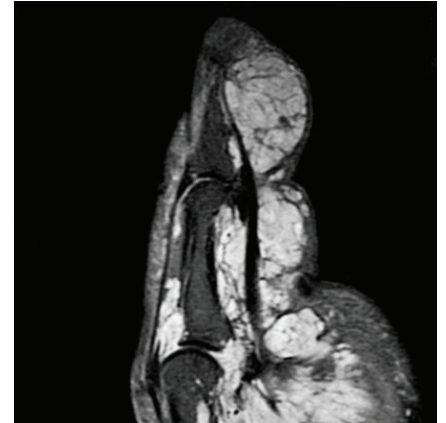
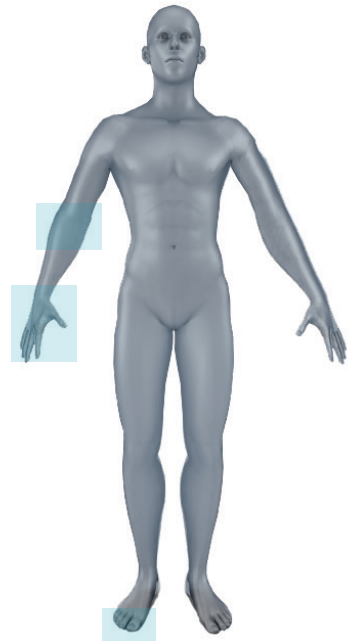
Large enough to support a broad patient demographic, the wrist coil's solenoid design delivers high spatial resolution and high SNR. This coil also provides high quality hand, finger and toe imaging.

## Clinical Applications:

- Wrist
- Finger
- Toes and Forefoot
- Elbow on Smaller Patients

## Specifications:

- 3 channel
- Length — 12 cm
- Width — 18 cm
- Height — 15.5 cm



# RAPID Knee Coil

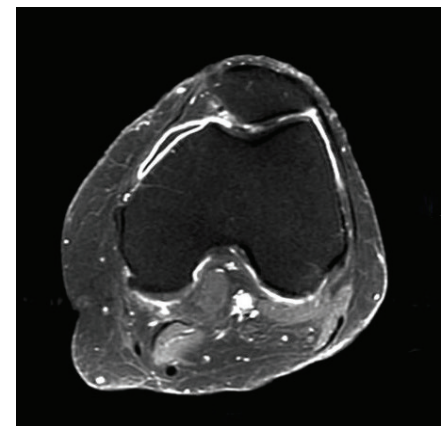
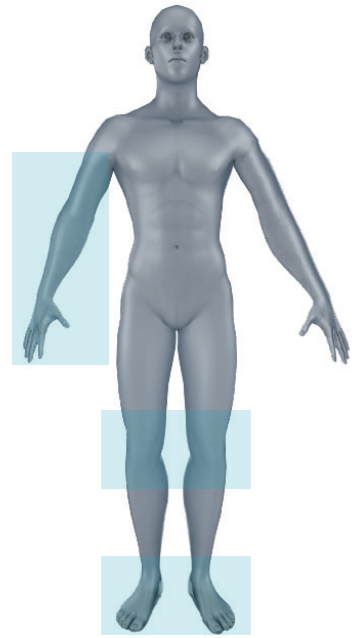
Supports high-resolution acquisitions and provides excellent patient comfort. The large opening supports imaging the larger patients, and the volumetric solenoid technology enables exquisite anatomic detail for all extremities.

## Clinical Applications:

- Knee
- Foot and Ankle
- Forearm and Humerus
- Wrist and Hand
- Elbow

## Specifications:

- 6 channel
- Length — 22.5 cm
- Width — 23 cm
- Height — 27 cm



# RAPID Bilateral Extremity Coil

Provides high quality bilateral and unilateral imaging of the lower extremities; supporting tib/fib, ankle and feet. This coil supports RAPID and conventional imaging modes for MSK and vascular applications.

## Clinical Applications:

- Peripheral Angiography
- Lower Leg Unilateral or Bilateral
- Foot and Ankle

## Specifications:

- 8 channel
- Length — 46 cm
- Width — 45 cm
- Height — 35 cm



# RAPID Body Coil

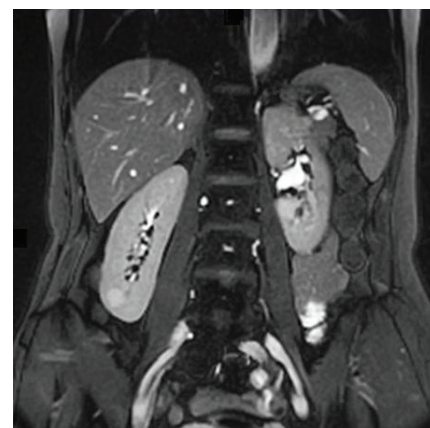
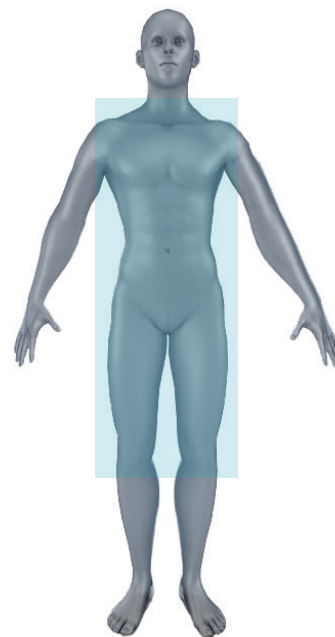
The multi-channel design enables application from dynamic abdominal breath holds to cardiac imaging along with lumbar and thoracic spine.

## Clinical Applications:

- Abdomen
- Pelvis
- Hips
- Spine
- Cardiac

## Specifications:

- 6 channel
- Length — 48 cm
- Width — 65 cm
- Height — 38.5 cm



# Large, Extra Large Flex Body/Spine Coils

Quadrature coils deliver excellent abdomen, torso and spine imaging for larger patients.

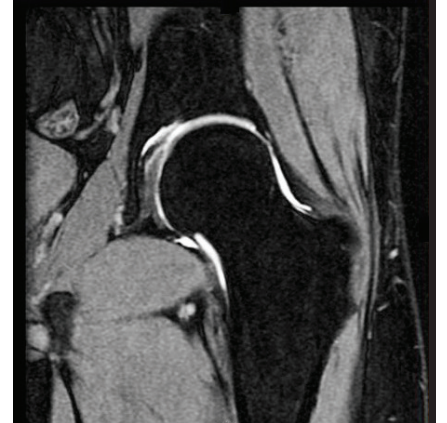
The Extra Large Body is the industry's largest body receiver coil at 190cm circumference — enabling quality imaging at the extreme of the demographic spectrum.

## Clinical Applications:

- Abdomen
- Pelvis
- Hips
- Spine

## Specifications:

- Length — 39 cm
- Circumference, Large — 150 cm
- Circumference, Extra Large — 190 cm



# RAPID Breast Coil

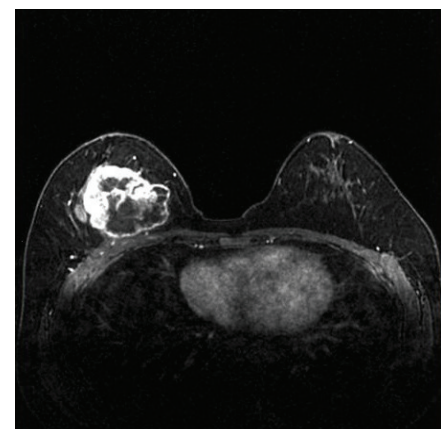
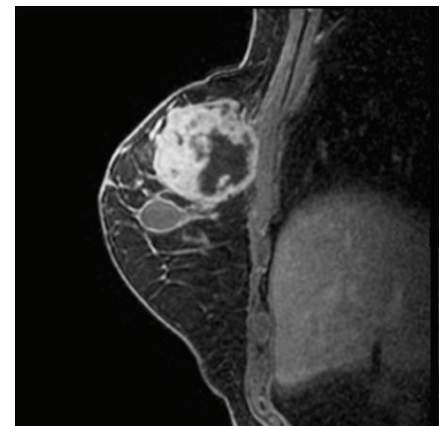
This coil delivers image quality and acquisition speed essential for dynamic studies of the breast and surrounding tissue, including providing bilateral high resolution imaging and support for interventions.

## Clinical Applications:

- Diagnostic Breast
- Interventional Breast

## Specifications:

- 7 channel
- Length — 70 cm
- Width — 52 cm
- Height — 16.5 cm



## Large Joint Coil

The multi-purpose coil supports high quality large joint imaging, and a variety of applications to the anxious or critical care patient.

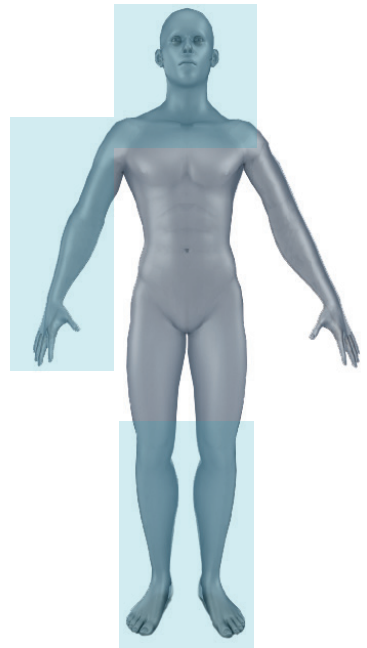


### Clinical Applications:

- Pediatric Patients
- All Extremities
- Claustrophobic Patients

### Specifications:

- Length — 39 cm
- Circumference, Large — 150 cm
- Circumference, Extra Large — 190 cm



## Transmit/Receive Body Coil

Integrated transmit/receive – The basic transmit coil for the system also provides receive capability delivering good imaging results for patients that cannot be imaged with an anatomy specific coil.



### Clinical Applications:

- Pediatric Patients
- Anxious Patients
- Bariatric Patients



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